

ABSTRACT

A new processing capability for desert dust enhancement using imager data from the Sea-viewing Wide Field of View Sensor (SeaWiFS) has been developed for Naval meteorology/oceanography (MetOc) operations support. The data are captured via direct broadcast high-resolution picture transmission (HRPT) at Navy Regional Centers in Rota, Bahrain, and Yokosuka, and processed at the Naval Research Laboratory in Monterey. The raw data are calibrated, corrected for missing lines and clutter, corrected for molecular scatter contamination, and enhanced through multispectral combination to yield value added products. The processing has been automated completely such that products, generated upon receipt of data, are hosted upon a password protected website typically 60 to 90 minutes from time of initial capture. This invention summarizes the SeaWiFS instrument capabilities, the protocol followed for automated near real-time processing, a physical basis for the NRL enhancements, and specific examples of the products with extension to over-land dust enhancement as enabled by MODIS. It closes with a glimpse of the potential utility of these products from the perspective of the warfighter.